

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1 1. (Currently amended) A system for enabling components to transfer
2 data between each other, the system comprising:
3 a plurality of components including a first component having a data object
4 that implements a universal data transfer interface; and
5 a second component capable of receiving the data object and invoking the
6 universal data transfer interface to cause a data transfer session object (DTSO) to
7 be sent to the second component, wherein the second component acts as an
8 intermediary component, which facilitates transferring of the DTSO from the first
9 component to a third component;
10 wherein the DTSO is capable of being invoked by the third component to
11 transfer data between the first component and the third component;
12 wherein the DTSO includes instructions to return data types supported by
13 the first component;
14 wherein the DTSO includes instructions that enable the first component to
15 receive asynchronous event notifications;
16 wherein the DTSO includes instructions to return device type and
17 operating status of the first component; ~~and~~
18 wherein the DTSO includes instructions to enable the first component or
19 the third component to negotiate with each other to select a transfer medium to
20 use to transfer data based upon the type of ~~data~~ data; and

21 wherein the components do not have a priori knowledge of each other's
22 domain specific interfaces and protocols.

1 2. (Cancelled)

1 3. (Previously presented) The system as set forth in claim 1 wherein the
2 third component sends a second DTSO to the first component to be used by the
3 first component for receiving data transmitted from the third component.

1 4. (Previously presented) The system as set forth in claim 1 wherein the
2 third component receives the DTSO from the first component to be used by the
3 third component for receiving data transmitted from the first component.

1 5. (Previously presented) The system as set forth in claim 1 wherein the
2 universal data transfer interface and the DTSO have source-specific object-
3 oriented mobile code that can be interpreted and performed by the first component
4 or the third component.

1 6. (Previously presented) The system as set forth in claim 1 wherein the
2 DTSO comprises instructions to enable the first component or the third
3 component to negotiate with each other to transfer data, to select a
4 communications protocol configured to transfer data between each other based
5 upon a type of data to be transferred.

1 7. (Previously presented) The system as set forth in claim 1 wherein the
2 DTSO is configured to indicate completion responsive to expiration of a data
3 transfer lease by the first component or by the third component, or responsive to

4 the first component or to the third component indicating that the data transfer has
5 completed or failed.

1 8. (Currently amended) A system for enabling components to transfer data
2 between each other, the system comprising:

3 a first component having a first data object that implements a first
4 universal data transfer interface;

5 a second component having a second data object that implements a second
6 universal data transfer interface; and

7 a third component capable of receiving the first data object and the second
8 data object, and invoking the first universal data transfer interface and the second
9 universal data transfer interface to use a data transfer session object (DTSO) to
10 transfer data between the first component and the second component when the
11 first component has data to transfer to the second component, wherein the third
12 component acts as an intermediary component, which facilitates transferring of
13 the DTSO from the first component to the second component;

14 wherein the DTSO includes instructions to return data types supported by
15 the first component;

16 wherein the DTSO includes instructions that enable the first component to
17 receive asynchronous event notifications;

18 wherein the DTSO includes instructions to return device type and
19 operating status of the first component; ~~and~~

20 wherein the DTSO includes instructions to enable the first component to
21 negotiate with the second component to select a transfer medium to use to transfer
22 data based upon the type of ~~data-data; and~~

23 wherein the components do not have a priori knowledge of each other's
24 domain specific interfaces and protocols.

1 9. (Previously presented) The system as set forth in claim 8 wherein the
2 third component sends the DTSO to the first component to be used by the first
3 component for receiving data transmitted from the second component.

1 10. (Previously presented) The system as set forth in claim 8 wherein the
2 third component sends the DTSO to the second component to be used by the
3 second component for receiving data transmitted from the first component.

1 11. (Previously presented) The system as set forth in claim 8 wherein the
2 DTSO is configured to indicate completion responsive to expiration of a data
3 transfer lease by the first component or the second component, or responsive to
4 the first component or the second component indicating that the data transfer has
5 completed or failed.

1 12. (Currently amended) A method for enabling a plurality of
2 components to transfer data between each other, the method comprising:
3 invoking, with a second component having a data object that implements a
4 universal data transfer interface, the universal data transfer interface of a first
5 component of a plurality of components to cause a data transfer session object
6 (DTSO) to be sent to the second component, wherein the second component acts
7 as an intermediary component, which facilitates transferring of the DTSO from
8 the first component to a third component; and
9 invoking the DTSO with the third component to transfer data between the
10 first component and the third component when the first component has data to
11 transfer to the third component;
12 wherein the DTSO includes instructions to return data types supported by
13 the first component;

14 wherein the DTSO includes instructions that enable the first component to
15 receive asynchronous event notifications;
16 wherein the DTSO includes instructions to return device type and
17 operating status of the first component; ~~and~~
18 wherein the DTSO includes instructions to enable the first component or
19 the third component to negotiate with each other to select a transfer medium to
20 use to transfer data based upon the type of ~~data~~data; ~~and~~
21 wherein the components do not have a priori knowledge of each other's
22 domain specific interfaces and protocols.

1 13. (Cancelled)

1 14. (Previously presented) The method as set forth in claim 12 further
2 comprising sending a second DTSO to the first component to be used by the first
3 component for receiving data transmitted from the third component.

1 15. (Previously presented) The method as set forth in claim 12 further
2 comprising receiving the DTSO from the first component to be used by the third
3 component for receiving data transmitted from the first component.

1 16. (Previously presented) The method as set forth in claim 12 wherein the
2 universal data transfer interface and the DTSO have source-specific object-
3 oriented mobile code that can be interpreted and performed by the first component
4 or the third component.

1 17. (Previously presented) The method as set forth in claim 12 wherein the
2 DTSO comprises instructions to enable the first component or the third

3 component to negotiate with each other to transfer data, to select a
4 communications protocol configured to transfer data between each other based
5 upon a type of data to be transferred.

1 18. (Previously presented) The method as set forth in claim 12 further
2 comprising configuring the DTSO to indicate completion responsive to expiration
3 of a data transfer lease by the first component or by the third component, or
4 responsive to the first component or to the third component indicating that the
5 data transfer has completed or failed.

1 19. (Currently amended) A method for enabling components to
2 transfer data between each other, the method comprising:
3 invoking a first universal data transfer interface of a first data object
4 belonging to a first component and a second universal data transfer interface of a
5 second data object belonging to a second component when the first component
6 has data to transfer to the second component, wherein the second component acts
7 as an intermediary component, which facilitates transferring of the DTSO from
8 the first component to a third component;
9 obtaining a data transfer session object (DTSO) from one of the invoked
10 first universal data transfer interface or the second universal data transfer
11 interface; and
12 using the DTSO to transfer data between the first component and the
13 second component;
14 wherein the DTSO includes instructions to return data types supported by
15 the first component;
16 wherein the DTSO includes instructions that enable the first component to
17 receive asynchronous event notifications;

18 wherein the DTSO includes instructions to return device type and
19 operating status of the first component; ~~and~~
20 wherein the DTSO includes instructions to enable the first component or
21 the third component to negotiate with each other to select a transfer medium to
22 use to transfer data based upon the type of data; and
23 wherein the components do not have a priori knowledge of each other's
24 domain specific interfaces and protocols.
25 data-

1 20. (Previously presented) The method as set forth in claim 19 further
2 comprising sending the DTSO to the first component to be used by the first
3 component for receiving data transmitted from the second component.

1 21. (Previously presented) The method as set forth in claim 19 further
2 comprising sending the DTSO to the second component to be used by the second
3 component for receiving data transmitted from the first component.

1 22. (Previously presented) The method as set forth in claim 19 further
2 comprising configuring the DTSO to indicate completion responsive to expiration
3 of a data transfer lease by the first component or by the third component, or
4 responsive to the first component or to the third component indicating that the
5 data transfer has completed or failed.

1 23. (Currently amended) A computer readable medium having stored
2 thereon instructions for enabling components to transfer data between each other,
3 which when executed by one or more processors, causes the processors to
4 perform:

5 invoking, with a second component, a universal data transfer interface of a
6 data object belonging to a first component of a plurality of components to cause a
7 data transfer session object (DTSO) to be sent to the second component when the
8 first component has data to transfer to a third component, wherein the second
9 component acts as an intermediary component, which facilitates transferring of
10 the DTSO from the first component to the third component; and
11 invoking the DTSO with the at least one of the plurality of components to
12 transfer data between the first component and the third component;
13 wherein the DTSO includes instructions to return data types supported by
14 the first component;
15 wherein the DTSO includes instructions that enable the first component to
16 receive asynchronous event notifications;
17 wherein the DTSO includes instructions to return device type and
18 operating status of the first component; ~~and~~
19 wherein the DTSO includes instructions to enable the first component or
20 the third component to negotiate with each other to select a transfer medium to
21 use to transfer data based upon the type of data; and
22 wherein the components do not have a priori knowledge of each other's
23 domain specific interfaces and protocols.
24 ~~data;~~

1 24. (Cancelled)

1 25. (Previously presented) The medium as set forth in claim 23 further
2 comprising sending a second DTSO to the first component to be used by the first
3 component for receiving data transmitted from the third component.

1 26. (Previously presented) The medium as set forth in claim 23 further
2 comprising receiving the DTSO from the first component to be used by the third
3 component for receiving data transmitted from the first component.

1 27. (Previously presented) The medium as set forth in claim 23 wherein
2 the universal data transfer interface and the DTSO have source-specific object-
3 oriented mobile code that can be interpreted and performed by the first component
4 or the third component.

1 28. (Previously presented) The medium as set forth in claim 23 wherein
2 the DTSO comprises instructions to enable the first component or the third
3 component to negotiate with each other to transfer data, to select a
4 communications protocol configured to transfer data between each other based
5 upon a type of data to be transferred.

1 29. (Previously presented) The medium as set forth in claim 23 further
2 comprising configuring the DTSO to indicate completion responsive to expiration
3 of a data transfer lease by the first component or by the third component, or
4 responsive to the first component or to the third component indicating that the
5 data transfer has completed or failed.

1 30. (Currently amended) A computer readable medium having stored
2 thereon instructions for enabling components to transfer data between each other,
3 which when executed by one or more processors, causes the processors to
4 perform:
5 invoking a first universal data transfer interface of a first data object
6 belonging to a first component and a second universal data transfer interface of a

7 second data object belonging to a second component when the first component
8 has data to transfer to the second component, wherein the second component acts
9 as an intermediary component, which facilitates transferring of the DTSO from
10 the first component to a third component;

11 obtaining a data transfer session object (DTSO) from one of the invoked
12 first universal data transfer interface or the second universal data transfer
13 interface; and

14 using the DTSO to transfer data between the first component and the
15 second component;

16 wherein the DTSO includes instructions to return data types supported by
17 the first component;

18 wherein the DTSO includes instructions that enable the first component to
19 receive asynchronous event notifications;

20 wherein the DTSO includes instructions to return device type and
21 operating status of the first component; ~~and~~

22 wherein the DTSO includes instructions to enable the first component or
23 the third component to negotiate with each other to select a transfer medium to
24 use to transfer data based upon the type of data; and

25 wherein the components do not have a priori knowledge of each other's
26 domain specific interfaces and protocols.

27 ~~data-~~

1 31. (Previously presented) The medium as set forth in claim 30 further
2 comprising sending the DTSO to the first component to be used by the first
3 component for receiving data transmitted from the second component.

1 32. (Previously presented) The medium as set forth in claim 30 further

2 comprising sending the DTSO to the second component to be used by the second
3 component for receiving data transmitted from the first component.

1 33. (Previously presented) The medium as set forth in claim 30 further
2 comprising configuring the DTSO to indicate completion responsive to expiration
3 of a data transfer lease by the first component or by the third component, or
4 responsive to the first component or to the third component indicating that the
5 data transfer has completed or failed.